PROJECT NUMBER: 1307

PROJECT TITLE : Reconstituted Tobacco Development

PERIOD COVERED: October 1-31, 1985

PROJECT LEADER: R. G. Uhl

## I. IMPROVED SHEET PROPERTIES

### A. Objective

Improve the physical characteristics and blend performance of reconstituted sheet.

### B. Status

1. Assistance was provided to Park 500 for the production of RL test sheets containing alternate humectant systems. Products containing 4% PG and 3% PG/2.5% glycerine were made with both the TC and 150B flavor systems. Subjective screening paralleled pilot results, indicating a slight preference for 4% PG in RLTC and a stronger preference for the combination humectant in RL-150B. Packout OV specifications were adjusted to compensate for PG loss during the OV test and there were no evident sheet attrition problems at Park 500. PG loss in the tunnel dryer was 10-15%.

2. Test RCB sheets containing the same alternate humectant systems, plus a reduced level of the combined humectant (2.5% PG/2% glycerin), were made at the BL Plant. Subjective screening indicated preference for the low addition level of combined humectant. The realized PG loss through the dryer of 50% had been anticipated and taken into account. Overall humectant levels (particularly glycerin) in the test sheets were high due to the large percentage of class tobaccos in RCB feedstock and the considerable residual humectant content in final sheet (0.4% PG, 1.7% glycerin, 0.6% TEG). Both combined humectant sheets are being remade to a finished sheet specification (correcting for residual PG/glycerin).

3. Two test blends using these sheet products are being made into cigarettes at Stockton Street. Both RLTC variants will be evaluated in combination with the preferred 150B and RCB sheets. Semiworks evaluation to determine baseline data on test sheet survivability and stability was initiated.

4. Four dryer release agents were found to be subjectively unacceptable when added at recommended application levels. CEL evaporated at several temperatures from 115°F to 170°F was made into sheet and submitted for cigarette making. Test sheets were also made with zero, normal and treble levels of SEL centrifuge sludge addback.

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C. Plans

1. Provide support for additional humectant trials.

2. Complete baseline survivability/stability study on alternate humectant sheets.

## II. SUBJECTIVE MODIFICATION OF RL

A. Objective

Improve or modify the subjective character of RL.

B. Status

1. Pilot production of test sheets made from pilot and Park 500 baseweb/CEL, as well as the cross-products, was completed. Cigarettes are being made to evaluate subjective differences between the tobacco substrates.

2. The second Semiworks evaluation of the RL/RCB sheet produced at Park 500 (product age = 7 months) was completed. Sieve testing, etc., is in progress.

3. A bench scale system for the continuous production of RL/RCB precooked flavor is under construction. This facility will evaluate a continuous stirred tank reactor (CSTR). Four CSTR units in series will be utilized to approximate a plug flow reactor system. Individual vessel volumes are up to 2 liters with an initial maximum throughput of 100 ml/min. Startup for system debugging will be in November.

4. Means to chemically remove scale from the Votator batch cooking system were evaluated on the bench. Best results were obtained with 10% boiling sulfamic acid. Two of the commercial cleaning agents (bases) recommended by our metallurgical consultant were moderately successful when followed by an acid wash at a less stringent temperature. In-place cleaning and retesting of the Votator system has been put on hold as the control module has been removed and reinstalled in the new CSTR facility.

C. Plans

1. Expedite evaluation of pilot/Park 500 cross-product sheets.

2. Complete data on second RL/RCB survivability test.

3. Startup and debug CSTR system.

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